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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,207

02/23/2006

Takeshi Shirai

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,207	Applicant(s) SHIRAI ET AL.	
	Examiner ALESSANDRO AMARI	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 1-36 and 40-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-39 and 60-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/7/08;10/26/07;4/10/06;3/22/06;2/23/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species 7 in the reply filed on 07 November 2008 is acknowledged. The traversal is on the ground(s) that a lack of unity of invention may only be established *a posteriori* by showing that the common subject matter of independent claims 1, 37, 40 and 60 (i.e., an optical element/exposure apparatus to be used for an exposure apparatus configured to illuminate a mask with an exposure light beam for transferring a pattern on the mask onto a substrate through a projection optical system and to interpose a given liquid in a space between a surface of the substrate and the projection optical system) does not define a contribution over the prior art. This is not found persuasive because the common subject matter above defines a immersion photolithography system which is well known in the art as described in the Applicant's own specification (see paragraph [0004]) and US 6,867,844.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-36 and 40-59 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 37-39 and 60-62 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 7-12 of copending Application No. 11/512087. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of copending claims describe an immersion photolithography system with a light shielding film formed of a metal film or a metal oxide film wherein the metal film is made of at least one selected from the group consisting of Au, Pt, Ag, Ni, Ta, W, Pd, Mo, Ti, and Cr, and the metal oxide film is made of at least one selected from the group consisting of ZrO₂, HfO₂, TiO₂, Ta₂O₅, SiO, and Cr₂O₃.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 37 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of

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compending Application No. 11/645,041. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of compending claims describe an immersion photolithography system with a light shielding film.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 37-39 and 60-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel et al (hereafter "Vogel") US 6,867,844 in view of Ishikawa US 2004/0090606.

In regard to claims 37 and 60, Vogel teaches an exposure apparatus or an optical element to be used in an exposure apparatus configured to illuminate a mask with an exposure light beam for transferring a pattern on the mask onto a substrate through a projection optical system, and to interpose a given liquid in a space between a surface of the substrate and the projection optical system as described in column 1, lines 58-67 and column 2, lines 1-26.

However, in regard to claims 37 and 60, Vogel does not teach that the exposure apparatus comprising: a light-shielding film provided on a side surface of a transmissive optical element on the substrate's side of the projection optical system.

In regard to claims 37 and 60, Ishikawa teaches (see Fig. 1) a light-shielding film provided on a side surface of a transmissive optical element (mask or reticle RST) on the substrate's side of the projection optical system as described in paragraph [0049]. The known technique of providing a light shielding film onto a reticle would have predictable resulted in providing for a photolithographic pattern for exposing a substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a light shielding film onto a reticle as taught by Ishikawa for the exposure apparatus of Vogel in order to provide for a photolithographic pattern for exposing a substrate for efficient production of semiconductor electronics.

Regarding claims 38 and 61, Ishikawa teaches that the light-shielding film is formed of any of a metal film and a metal oxide film as described in paragraph [0049].

Regarding claims 39 and 62, Ishikawa teaches that the metal film is made of at least one selected from the group consisting of Au, Pt, Ag, Ni, Ta, W, Pd, Mo, Ti, and Cr, and the metal oxide film is made of at least one selected from the group consisting of ZrO_2 , HfO_2 , TiO_2 , Ta_2O_5 , SiO_2 , and Cr_2O_3 as described in paragraph [0049].

Regarding claim 63, Ishikawa teaches (see Figure 1) that the light-shielding film prevents irradiation of the exposure light beam onto a sealing member (74, 76).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALESSANDRO AMARI whose telephone number is (571)272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ava
14 December 2009

/Alessandro Amari/
Primary Examiner, Art Unit 2872